Roller Wire Brake For Wire Bonding Machine

ABSTRACT

While fabricating a packaged semiconductor chip, a wire is bonded on a chip contact pad using a wire bonding machine. A bond head of the wire bonding machine is moved relative to the chip contact pad, thereby pulling a first length of the wire out of the wire bonding machine. Part of the wire passes through a space between a first outer edge of a first bearing race and a second outer edge of a second bearing race during the pulling of the first length. The wire is bonded on a lead. A first piezoelectric element is energized in the bond head, thereby causing it to expand and press against the first bearing race, which brakes the first bearing race and brakes the wire between the first and second races. The bond head is moved relative to the lead during the braking and severs the wire proximate to the lead.